needed to prove the extent and quality of the ores located. This work has gone till now rather tardily, owing to the inadequate funds at the disposal of the Directorate General on Minerals. There also seems to be no clear policy as to how this wealth should be exploited: whether by the State directly or by concession to national or foreign enterprise. 135

Another factor delaying work in this field is the difficulty of transport to and from the sites of the ore deposits which are remotely situated in desert and mountain. [489]

Oil and gas are indeed plentiful in Iraq, and the exploitation of oil resources has indirectly helped to finance the industrial development so far achieved. But the cost of oil fuel and other oil products for local consumption is not much lower than in other countries because of the high rate of taxes on consumption. This and the limited range of oil products so far made in Iraq by the Alwand refinery, owned by the Anglo-Iranian Oil Co., have led to the import of a number of oil products from abroad. But the situation should change when the State-owned refinery, now under construction, goes into production. 382

Another problem connected with the supply of fuel is the lack of electric power. Power generation in Iraq is inefficiently organised and power rates, except in Basrah and Baghdad in recent years, are among the highest in the world. This has compelled most industries to generate their own power which has added a great deal to production cost. The recent reduction of power rates and the availability of electricity in Baghdad has been one of the major reasons for the concentration of industry in that city. 377

(3) **Concentration of Industry**: Industry in Iraq is heavily concentrated in the city of Baghdad which has a population of 550,000 inhabitants, in other words a little more than ten percent of the country's population. Excluding oil and one or two small textile, tanning, and grain-milling industries, all modern industry has been established in or near Baghdad, thus adding to the population and housing problems of the capital. There are many reasons for this concentration of industry. All routes converge on Baghdad; it has the largest population and, as the seat of Government, it offers easy access to the central authority. As an old trading centre Baghdad has a well-organised market, large financial resources, and managerial and office staffs. Some of the factors that have made Baghdad 438 [366]

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the exodus of the Jews. For industry the training of good cost accountants capable of checking the efficiency of various types of operations is especially vital. A single secondary commercial school, supplemented by a night school, and a higher College of Commerce and Economics have been established to meet the need for business training. The first appears to be functioning along sound lines, although it suffers from inadequate quarters and a shortage of teachers. As soon as competent teachers can be trained or recruited, secondary commercial schools should be opened in the other principal cities, particularly Basra and Mosul. On the other hand, the College leaves much to be desired from the standpoint of both the curriculum and the standard of instruction. It apparently produces neither competent and practical bookkeepers and accountants, nor people well-grounded in economics and finance, capable of acting as company secretaries or as economic and financial experts in business or government. Greater emphasis should be placed on practical training; the teaching staff must be strengthened, and more attention paid to banking and accounting, particularly cost accounting. Advisory committees consisting of representatives of leading banks and business houses should be appointed to both the College and the secondary school to review the curriculum, make provision for part-time apprenticeship training and check how well graduates of these institutions measure up to the requirements of business.

IV. Transport and Communications

On the whole, the existing transport system serves the present needs of the country adequately (see map). For the future the principal problems will be to make provision for essential renewals of track and rolling stock and to standardize the gauges on the railways; to develop an adequate network of metalled main roads, supplemented by feeder roads; and to establish effective control over road transport. If these problems are solved, transport capacity should have no difficulty in meeting the growing requirements of agriculture and industry.

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654[M] 433 pumps. In other respects industrial development would be geared to supply the growing demand for consumers goods, such as shoes, textiles and utensils, and for construction materials, such as cement, arising out of the development program itself.

654[M] 439 Rising agricultural and industrial output will necessitate a corresponding increase in transport capacity. Here the development of road transport and the replacement of wornout track, locomotives and rolling stock will be the principal tasks of the future.

654[K] 671 744 Since the relationship of health and education to production may appear more indirect, there is danger that these two subjects will be neglected in the emphasis on greater national output. Basically, however, it is the productivity of manpower which must be raised, and this can be achieved only if measures are taken to make people better educated and to free them from debilitating disease. In the future the public health effort must concentrate on the prevention of disease through such measures as increasing the number of village dispensaries, the training of midwives, the organization of a corps of sanitarians, elimination of stagnant and polluted water, provision of safe water supplies and sewage disposal, slum clearance and better housing. Community planning should focus largely on such improvements as will contribute to better public health. A great broadening of the educational effort is needed in the future to teach people how to cope more effectively with the problems of everyday living. To this end, compulsory primary education should be gradually introduced over the next 15 years and a vigorous campaign for the education of adults should be launched. At the same time, however, it is vitally important to adapt education to the practical needs of the people, helping them to improve their health and their methods of work.

654[K] The program which the Mission has outlined in this report is undoubtedly ambitious. It requires a rate of progress unprecedented for a country which for many centuries remained virtually static and which over recent decades has developed at a relatively slow pace. There is no assurance that the program can be carried out over the next five years. Yet the Mission has thought it important to set up targets, even ambitious targets, toward which the country can strive. If successful, the program will bring about a

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ANNEX E

TRANSPORT AND COMMUNICATIONS

489 Iraq's transport system, which is concentrated in the populated and cultivated eastern half of the country, converges on two points, Baghdad, the capital and trade center, and Basra, the country's only port.

504 The Port of Basra lies about 140 kilometers (85 miles) upstream from the Persian Gulf on the Shatt al Arab and is accessible to ocean-going ships of all sizes entering the Persian Gulf. Its site serves the economy of Iraq well, the junction of the cheaper ocean transport with the dearer inland transport being at the farthest practical point inland.

503 The Tigris and the Euphrates, together with their tributaries, offer natural transport routes. However, they have remained untrained and largely uncontrolled for centuries and, apart from a few short stretches on the rivers and their tributaries which are usable by local traffic, limited and restricted inland navigation is possible today only on the Tigris between Basra and Baghdad.

496 The railway system consists of three main lines, two of narrow gauge, one of standard gauge. One of the two meter-gauge lines is the main line from Baghdad to Basra, serving the most densely populated provinces besides connecting the two principal centers. The other links Baghdad with the northeastern provinces, east of the Tigris. The standard-gauge line runs from Baghdad on the right bank of the Tigris to Mosul, Iraq's second city, and beyond through a tip of Syria to Turkey, the Mediterranean and Europe. Until a year ago no physical junctions existed between the three main lines. Goods carried on both meter-gauge lines had to be ferried across the Tigris at Baghdad and then transshipped. The ferry has now been replaced by a bridge but the transshipment to and from the standard-gauge line remains necessary. Through passenger traffic between the three main lines is negligible.

491 A road system of approximately 8,000 kilometers (5,000 miles) covers the eastern half of the country, but most of the roads

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491 are unsurfaced and impassable for long periods in wet weather. All-weather roads are at present found only in the Baghdad area and in the mountains in the North. The only passable trunk roads are those from Baghdad to Khanaqin, Baghdad to Kirkuk, Erbil and Mosul, and Baghdad to Rutba and Syria. Even these have shorter or longer sections in very poor condition. There is no all-season road between Baghdad and Basra.

508 Two civilian airports, Baghdad and Basra, serve the principal
509 air routes between Europe, Asia and beyond. Internal air services are limited to one line between Baghdad and Basra. Military airfields and landing grounds and a few private air strips are available in certain places, but demand for internal air transport has so far been negligible.

509 One state air line, Iraqi Airways, operates services with
475 neighbor countries and Egypt through Baghdad and Basra with a small fleet of four aircraft. Administration and management of the airline are combined with those of the state railways.

315 Oil from the oil fields at Kirkuk is carried by pipelines across the country to the Mediterranean ports of Tripoli and Haifa, but the line to Haifa is now out of operation. A shorter pipeline connects the southern Iraq oilfield with the Shatt al Arab oil port at Fao.

● 489 Transport connections with the outside world are well served by the Port of Basra for ocean-going traffic, by the airports of Baghdad and Basra in international air traffic and by the oil pipelines to the Mediterranean. At present only one railway line, beginning at Baghdad, connects Iraq with Syria, and via Syria with Turkey and Europe. A desert road exists for through road traffic between Iraq and Syria and Lebanon. A private company, Nairn Transport, operates an international bus service on this route. There are two main roads for exchange of traffic with Iran, one from Baghdad via Khanaqin, and one from Erbil via the Rowanduz Valley and Rayat. Future economic developments may perhaps demand new traffic outlets to the Mediterranean, shorter and better equipped than the existing railway and road routes, but at present there are few signs of such a demand.

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On the whole the existing transport system serves the present needs of the country well, but there are certain shortcomings and problems. The principal difficulties are:

Insufficient means of transport in the Tigris valley between Baghdad and Basra, serving the Kut and Amara districts;

The lack of roads, shortage of surfaced trunk roads and non-existence of rural feeder roads;

The lack of control over road transport, urban as well as inter-urban and rural; and

The renewals and the gauge problems of the railways.

I. Ports

The Port of Basra was developed as a modern port from initial installations constructed during the first World War. During the second World War, the Port had to cope with a vast increase in traffic. Certain extensions, necessitated by military requirements, were carried out, including supply lines into Iran and through Iran to Russia, but normal maintenance, renewal and improvement works were severely restricted. The postwar period presented the problem of overcoming the arrears in maintenance and renewals, under an additional handicap of shortage of technical staff. Today the Port operates efficiently; it is equipped to handle all traffic, incoming and outgoing, without congestion and there is sufficient margin to cope with the increase in traffic to be expected from further economic development of the country. Particular credit must be given to the Directorate of the Port and a depleted but devoted staff for the results achieved.

The activities of the Port extend along the Shatt al Arab from the main wharves at Magil to the mouth at Fao. In addition to handling export and import traffic for Iraq, it also performs certain services for the Iranian oil port of Abadan; in recent years the number of ships calling at Abadan has been five to six times the number at Basra. The principal developments in the postwar period are set out in Table I. The activities of the Port cover a wide field. Besides actual port services such as harbor, wharves, sheds, pilotage, lighting and buoyage, civil, mechanical and elec-

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

Tigris, although during each of the two World Wars there was a temporary railway connection with Kut.

The railways are state-owned and operated under the management of a Director General who is responsible to a Railway Board appointed by the government. The administration is autonomous and has its own budget which must, however, be submitted annually to Parliament for approval. The administration is well organized, the management capable and the operation efficient and economical.

Capacity

The railway system consists entirely of single track lines built to light standards, and the permitted axle loads are very low. This limits the capacity of the lines and increases the operation problems. There is no doubt, however, that the system's capacity is ample for present demands. During several war years it actually carried about twice the tonnage of goods transported in recent years, even though the length of the system was only about one third greater through the temporary construction of military branch lines (see Table 4).

Railway carrying capacity is in reality rather elastic. The railways could carry as a minimum 15 percent more goods, and, in a pinch, could probably carry considerably more. In consequence of the over-all development program, traffic requirements will undoubtedly increase quite rapidly. For example, the value of imports may double within about five years, and the amount of

TABLE 4

TRAFFIC ON STATE RAILWAYS

Year	Route Kilometers	PASSENGERS Passenger Journeys	PASSENGERS Passenger Kilometers	GOODS Total Revenue Tonnage Carried	GOODS Total Revenue Ton Kilometers
1943-44	2,011	4,418,590	662,256,369	3,586,081	905,104,309
1944-45	1,555	4,869,523	669,987,674	2,390,402	648,482,848
1945-46	1,555	5,292,441	775,107,476	1,970,107	513,643,871
1946-47	1,555	4,300,413	630,705,454	1,860,296	600,138,802
1947-48	1,555	3,725,463	529,066,676	1,714,290	556,623,270
1948-49	1,555	3,340,034	473,075,056	1,674,289	497,306,309
1949-50	1,648	3,609,337	517,939,859	1,980,795	657,097,000

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internal traffic, particularly in building materials, will also rise substantially.[2] The burden on the main trunk line from Basra to Baghdad will increase especially. If steps are taken, however, to carry out the necessary replacement and rehabilitation measures outlined in this monograph, the railways should be able to handle much of the increased traffic. Part of the increase will presumably be absorbed by the roads.

The financial position of the railways has not been wholly satisfactory in recent years. To be sure, they have had a considerable operating surplus until the last few years, as is indicated in Table 5. Since 1945-46, however, this surplus would have actually disappeared or been converted into a deficit if it had not been for the fact that the sum set aside for renewals and depreciation was rather inadequate. In 1948-49 a small surplus was achieved only because the amount appropriated to the renewals account was cut from ID 400,000 to ID 250,000; and when the

[2] See the Mission's main report, pp. 88 *et seq.*

TABLE 5

RAILWAY FINANCE
(in dinars)

Year	Operating or Ordinary Budget			Capital Expenditure
	Revenues	Expenditures	Balance	
1938-39	733,613	753,063	−19,450	938,115
1939-40	752,546	733,530	+29,016	559,492
1940-41	953,379	800,712	+152,667	176,866
1941-42	2,241,657	1,440,546	+801,111	159,937
1942-43	4,775,646	2,316,576	+2,459,070	161,905
1943-44	5,067,899	3,781,525	+1,286,374	137,258
1944-45	4,141,110	3,132,064	+1,009,046	112,366
1945-46	3,769,823	3,241,988	+537,835	387,684
1946-47	3,436,403	3,206,164	+230,239	789,095
1947-48	3,794,003	3,549,115	+244,888	1,761,123
1948-49	3,633,022	3,614,569	+18,453	2,778,902
1949-50	3,991,297	3,705,542	+285,755	1,068,558
1950-51*	3,949,200	4,041,400	−92,200	1,734,000
1951-52*	4,211,100	4,274,100	−63,000	902,500

* Budget estimates.

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Transport licenses should be granted only if the proposed operator appears responsible and sufficiently well equipped to perform the transport services and if there is evidence of present or prospective need. Operators should be required to take out insurance, to adhere to published rates, routes and schedules, and to conform to loading regulations.

Maintenance

The maintenance of the new road system when once completed is even more important than its initial construction. Service and funds must be assured to keep the roads in the condition in which they have been built. The Minister of Finance should budget for annual expenditures, to be estimated by the Public Works Department, for maintenance of the road systems and all accessories including sign posting, for improvements necessitated by increased traffic, for inspection and control of road traffic and for the traffic police required. The expenditures should, in general, be covered by revenue from those who actually use the roads.

Subsidiary Roads and Urban Streets

It is recommended that at the earliest opportunity a system of cooperation between the Public Works Department and provincial and municipal road departments be established to bring maintenance, traffic control and municipal licensing in line with the government's policy in these matters and that appropriate provision for this cooperation be made in the budget.

City Transport

An essential part of the country's transport system is passenger transport service in the capital. Baghdad and its suburbs form a city of a population of over half a million spread over an area with a radius of four to eight miles. In 1938 it was decided to establish a municipal passenger service to be operated with buses. The war intervened and limited services were brought into operation in 1942 with converted army trucks equipped with locally built bodies. A loan of ID 500,000 was raised, more vehicles purchased and workshops and garages of sorts installed. The services deteriorated with the poor equipment, which was all that was available in wartime, and the municipality was unable to carry the financial burden. Early in 1950 the service was taken over by

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It is expected that once this work is completed, the personnel problem will ease somewhat.

The development program of the service provides for a survey and mapping to a scale of 1:20,000 at an estimated cost of ID 200,000. For the appropriate housing of the service, a new building with 10,000 square meters of floor space is now under construction and is expected to be completed in January or February 1952. This will facilitate administration of the service which is now scattered in three widely separated buildings. The new building will also house the up-to-date printing plant ordered in Great Britain. Funds for building and plant have already been sanctioned. Air surveys now in progress should be continued at an annual cost of approximately ID 40,000.

XI. General Observations

Teamwork

Not only the development of the transport services but also the general development program, with all its implications of temporary and seasonal demands for transport of construction materials and imports of machinery and plant, will materially affect the tasks before the transport managements. The teamwork in the existing transport departments is exemplary. It is therefore emphatically urged that no change be made in the present organizations and their leading personnel until after the main development programs are completed.

Intermediary Staff

In all the transport services there is a great dearth of intermediary staff—foremen, inspectors, surveyors, supervisors, and the like—for whom practical training in workshops and on construction sites is far more important than school or college education. In all transport development projects, special courses should be provided to train adaptable Iraqi apprentices under skilled teachers in shops, factories and on tracks and roads in the country.

These observations apply to all forms of transport, port, railways, roads, airways and communications. Unless continuity is maintained with a gradual, cautious transfer of responsibility from foreign to Iraqi personnel, efficiency will be seriously jeopardized.

8:Campbell T-5 (no date) 1949 MH1 Iraq MH1

phrases as 'Amir ul Mouminin', that is, 'The Commander of the Faithful". 192

12. The Story of the Two Dascums

Page 171, Line 1. 'Which was full of chests of Kuweit of enormous size.' 489 439

The Kuweit chest is sometimes to be seen in English houses, its owners ignorant of its history. It is normally of polished or carved teakwood studded with brass, and with massive brass hinges and locks which are engraved by hand. In size it may be from four to six feet long, two and a half or three feet high, and of course broad in proportion. It sometimes has a false bottom or secret drawer. I have often hoped that some resident of Kuweit would write a book on these interesting chests. I have seen many of them, beautifully worked, in the bazaars of Baghdad and Basra. I also used to see them when going on board Kuweiti jalbuts from India when they called at Bahrein. There were usually a number of these chests carried as deck cargo, though not as large nor of such good wood as the old ones found in the bazaars. The nakhodas of the craft whom I questioned about these chests informed me that their sailors, in addition to receiving pay, had the right to bring one chest each from India, full of goods to be sold on their own account. I did in fact look through some of these chests and found them in the main stocked with Indian sandals, mirrors, scent, rolls of cloth, saris and similar articles. I was told that in the past Kuweiti sailors would buy the chest in India, stock it with goods, and carve it and put in the heavy brass studs on the voyage back to Kuweit, which might take several months, as the dhows call at a number of small Indian and Persian ports. On arrival at Kuweit or Basra the chests and their contents would be sold, and the price of a well worked chest was an important part of a sailor's earnings. I asked them why the chests on the deck of most of the dhows were without ornament, and was told that at present there was less profit in the sale of the chest than in the goods it contained, and that chests now available in Southern Indian ports were of such poor quality that they did not repay work. They still buy these chests as the sailor's own property is carried as

8:Campbell T-5 (no date) 1949 MH1 Iraq MH1

489 deck cargo, and the goods would be liable to damage by rain or spray
439 if otherwise packed.

13. THE STORY OF SHEIKH MIZEL EL QURNACHI, A MAN OF A NOBLE FAMILY, THOUGH HIS LAND WAS POOR

804 Page 185, Line 15. 'and ordered fifty mithkals of them.'
The mithkal is a small weight used by goldsmiths.

192 Page 188, Line 20. 'Take soldiers and go to Qasr Qurnachi.'
Qasr—castle. 'Qurnachi Castle.'

Page 191, Line 11. 'Can then the hawk fly without wings.'
539 I was told that this quotation was from a famous Arab poet, but
192 regret that I was unable to place it, and nobody could remember the name of the poet. The quotation as put into the mouth of Sheikh Aqab is particularly apt, as Aqab, though its literal translation is 'eagle,' is a name often given to hawks.

Page 198, Line 24. 'She was clad in an ataq and bag trousers.'
The ataq is a kind of blouse.

14. THE STORY OF DAOUD THE CAMEL AND OF HIS MISFORTUNES

Page 204, Line 4. 'The Shammar of the Jezira.'
103 The area in Mosul Liwa which lies to the west of the Tigris, that is,
101 between the Tigris and the Euphrates, is known as the Jezira, or Island. The Shammar in this area are the famous tribe of the late Sheikh Ajil el Yawar.

15. BETWEEN TRUTH AND FALSEHOOD LIE FOUR FINGERS

551 Page 214, Line 14. 'The name of this girl was Leila for she was born in the night.'
Leila, 'Night,' is a popular girl's name in South Iraq. I do not think it is restricted only to those girls born at night.

2: United Nations U-4 (no date) 1950 M1 Middle East M1
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A 306 communications with Pakistan, India, the USSR, various European countries and the United States of America. Kabul has a radio station broadcasting 207 in the Pushtu language.

IV. General Remarks and Conclusions

ME 101 Geographers point out that formidable mountain barriers, which can only be crossed by difficult passes, separate Asia Minor from Asia proper and that the latter really begins only at the Mesopotamia plateau. As a matter of fact, although forming part of the same geographical group, Iraq, Iran and Afghanistan, generally speaking, have no natural connexions with each other. Furthermore, there is often no cohesion between the various regions in each of these countries.

241 From ancient times, the three countries have been essentially agricultural and they still remain so. The main occupation of the population, largely nomad, is agriculture and stock-raising.

I 489 [504] [315] In different ways and to varying degrees, the economy of these countries is seriously handicapped by the lack of means of communication. Iraq, as we have seen, has for its foreign trade the excellent deep port of Basra, with its modern installations, and a long river channel, the Shatt al-Arab, linking it to the Persian Gulf. However, there are permanent obstructions at the river mouth which are a constant preoccupation to the Basra port authorities. In the case of crude petroleum, Iraq's chief export, the transport problem has been solved by the construction of the remarkable pipe-lines which vastly facilitate operations, save time and reduce cost. Lastly,

• 489 [509] air traffic—useful only to a small number of travellers and for valuable goods—is very heavy in Iraq, which forms a veritable turn-table, a sort of Belgium or Switzerland in Western Asia: Iraq's two airports serve as junctions between the United States and Europe on the one hand and the Far East on the other.

For inland transport on the other hand, Iraq is much less well served: shipping on the historically famous "twin rivers" is very limited and in fact only uses part of the Tigris. The country's railway system is inadequate, there is no standard gauge and the rolling-stock needs to be increased and modernized. The road system has been developed and [731] motor transport (mainly by lorry) is steadily increasing; but it is paralysed on many roads during the rainy season and in numerous places it is at the mercy of the floods: the disastrous flooding of the Tigris in May 1950, particularly serious around Baghdad, will be remembered.

Observers point out that a matter deserving special attention is the co-ordination of river and rail

transport, in other words, a rationally organized goods-tariff service, which so far does not exist.

Although lacking data on which to base an exact appreciation of the Iraqi Government's plans concerning transport and communications, various sources state that it is making great efforts to improve the means of communication and installations. It supervises the maintenance of the entry to the Shatt al-Arab, and is allocating funds for the purchase of new dredges for the cutting of a new channel. It is reported by authorized sources that the programme for the railways, at the end of 1949, consisted of thirty-five work plans at an estimated total cost of 10,178,000 dinars. New railway lines are being built to serve the economically important districts, as well as railway bridges and a new station and locomotive depot at Baghdad. According to a recent report in the British technical Press, three modern sleeping coaches, with kitchen and air-conditioning, for the Baghdad-Mosul standard-gauge railway (1.435 metres) and beyond, have recently arrived at Basra; two other modern first-class non-air-conditioned coaches are about to arrive.[8] Authorized sources state that the Iraqi Government is arranging for the gradual building (or rebuilding and improvement) of the country's road system, to the extent of its resources. Its main concern is to build new roads across the passes and valleys of the northern plateaux. Hundreds of new bridges for motor traffic have been completed in the last twenty years (including two steel bridges at Baghdad, and one steel bridge, 300 metres long, at Mosul). The

489 needs of the southern districts are particularly acute:
653 as yet they possess only roads which are not prac-
[491] ticable for any traffic, still less for heavy motor traffic, during the rainy season and for a long time afterwards, and boat-bridges of a very old—almost antediluvian—type across the Euphrates and other rivers.

[508] The government is taking steps to modernize the Baghdad and Basra-Ma'agil airports (the latter, in addition to its modern technical installations, has had since 1937 an air-conditioned hotel, swimming pool, tennis courts, etc.). The aim is to make them into first-class international airports. In addition, a training school for civilian air pilots was established in Iraq in 1937.

377 As the country lacks hydroelectric power stations, in spite of the existence of various large dams, there is now a plan to utilize the Bekhme dam for the generation of electric power.

315 In the expectation of the return of normal political conditions in the Near and Middle East, the

[8] It is interesting to note that for the Basra—Baghdad section (568 km), these coaches are placed on special 1-metre bogies.

29:Dunn S-4 (1952)1952 MI Middle East
Iraq MHI

248 established tenure systems, and the primitive methods likely will disappear slowly.

Earlier British experiments in the area indicated March 15 to April 15 as the optimum sowing dates, but reports are that cotton usually is planted much later, either because of laxness or because of labor competition with other crops. Some farmers try to get wheat off and then plant cotton, which throws the cotton very late. Cotton planted in April will begin opening in August. The Rogers Acala undergoes a dormant period of several weeks after the first bolls open and then continues to set and mature bolls up to January. About 80 per cent of the cotton is made on what is called this second or late flush. Picking goes on during all this period.

GINNING

248 407 Until a few years ago there were only about four saw gins with 10 stands in the country and no roller gins. The large profits in recent years on the limited number of gins and the general interest in expanding the crop have prompted a rush to buy new equipment. A total of seven gins operated last season, of which three were newly constructed by the Murray Gin Company. This company has sold three more new gins with a total of 16 stands, which are in process of erection. All the new gins are fully equipped with overhead Mitchell cleaner-feeders and one has the new incline cleaner. Not only the equipment but also the buildings, offices, and storage houses are very modern.

All the gins, with one exception, are privately owned. However, the government will buy another small gin for experiment station use in ginning pure seed that is produced on the station's farm. All the gins except one near Mosul are in the Baghdad and Kut areas.

A great deal of hand labor is employed in the storage houses for picking out foreign matter and damaged and immature locks of cotton before ginning. There are reports that as much as 35 per cent of the weight of the seed cotton coming to the gins is taken out as extraneous foreign matter added to increase the weight of the bales. The government is making a strenuous effort to protect the reputation of cotton by encouraging better ginning.

To facilitate transportation, the ginners make a light 400-pound bale covered on six sides in light-weight burlap and bound with a continuous narrow steel band which is simply tucked under at the end instead of buckled. There are no other compresses and the cotton must be exported in the form in which it comes from the gin. This results in a heavy freight charge, since the gin bales have a density of only 16 to 18 pounds.

442 MARKETING

The farmers themselves take the seed cotton in bags to a central market place, usually located at the gins, and sell to merchants. Transportation is [489] scarce. Oftentimes the cotton is carried by the farmer in sacks on his back or his head for miles.

The merchants make little differentiation in price for fiber quality. They do make allowances for foreign matter and moisture which, merchants claim, are added by the farmers in an effort to increase the weight. The merchants gin the cotton for their own account and retain title to the seed and the lint.

The merchandising system can best be described as haphazard. The volume of cotton is small, and merchants handle the cotton along with many

of the 33rd parallel. Affiliated companies have concessions over the remaining territory—the Mosul Petroleum Company in the region west of the Tigris and the Basra Petroleum Company south of the 33rd parallel. Oil is extracted from the Kirkuk fields by the Iraq Petroleum Company and conveyed by pipelines to Mediterranean ports. It was formerly pumped to terminals in Tripoli and Haifa, but the latter pipeline has been closed since the Arab-Israeli hostilities in 1948. A new pipeline, constructed from Kirkuk to the Syrian port of Banias, was opened early in 1952.

In 1938, the Basra Petroleum Company began drilling operations in the Persian Gulf area, where the existence of an extensive oil field has since been established. In 1950, a pipeline was completed to its shipping terminal at Fao, at the head of the Gulf. The activities of the Mosul company are still in the exploratory stage, but the production of oil has recently been started at Ain Zala. It is piped to the Mediterranean by a line which joins that from the Kirkuk fields at Baiji, on the Tigris.

A smaller oil field at Naft Khanah, near the Iranian border, is worked by the Khanaquin Oil Company, a subsidiary of the Anglo-Iranian Oil Company. This company operates a refinery on the Alwand River, near Khanaquin, which supplies petroleum products for local consumption. Since 1952, it has also constructed a small refinery at Basra to process products for use in southern Iraq. It obtains the crude oil from Naft Khanah or from the Basra Petroleum Company.

Iraq derives a considerable revenue from the pilgrimage traffic. The principal shrines of the Shia sect are located at An Najef, Kerbela, Kadhimain and Samarra, and, in addition to local pilgrims, they are visited annually by thousands of Shiites from Iran, Pakistan and other Moslem countries. The privilege of burial near the shrines is also coveted by devout Shiite Moslems.

Transportation is mainly by roads or waterways. Motor highways link the princi-

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pal population centers and radiate from Baghdad and Mosul to cities in Syria, Iran and Turkey. The Tigris is navigable to barges from Basra to Baghdad throughout the year, and to smaller craft as far as Mosul during the high-water season. The Shatt al Arab is open to ocean-going vessels, and Basra, about 85 miles from the Persian Gulf, is one of the major ports of the Middle East. A government-operated railroad, part of the famous "Berlin to Baghdad" railway, runs from Basra to Baghdad and Mosul, with connections through Aleppo to Istanbul. A branch line extends from Baghdad to Kirkuk, Erbil and Khanaquin. A government-owned airline serves Iraq and the neighboring countries, while international lines from Europe to Africa and the Far East stop at Baghdad and Basra.

Food and Nutrition

The nutrition of the people is governed by the cultural habits of the different racial and social communities, the economic status of the individual families and the food supplies available under diverse climatic conditions. Undernutrition is prevalent among the poorer inhabitants—tenant cultivators, urban laborers and nomadic tribes—who make up over three quarters of the population. Wheat, barley, rice and dates are the staple food crops of the country, while vegetables and fruits, other than dates, are frequently scarce. Wheat is widely grown, primarily in the rainfall areas of the north, but also in the irrigated riverain zones of the south. Barley is cultivated extensively, and, like wheat, is used in the preparation of breads and of *burghul*, a coarse-grained cereal product typical of this region. Millet and maize are common crops in the south. Rice is produced in certain lowland districts in the Kurdish highlands and on the fringes of the southern marshes, and is a popular food among all sections of the population. Peas, beans and lentils are usually consumed throughout the year, and tomatoes, eggplant and different root and green vege-

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